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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Paul MOELTGEN, Pirmin WILHELM
For: Al₂O₃/SiC NANOCOMPOSITE ABRASIVE GRAINS, METHOD FOR
PRODUCING THEM AND THEIR USE

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PRELIMINARY AMENDMENT MADE UPON U.S. NATIONAL PHASE ENTRY

Please amend certain claims in the above-identified application as follows:

-- 1. (amended) Method for the production of Al₂O₃/SiC nanocomposite abrasive grains, characterized by the fact that an aluminum-oxide containing sol is mixed with sinter additives and SiC nanoparticles and subsequently gelled, dried, calcined and sintered the sintering being conducted by heating the mixture in the range between 1300°C and 1600°C.

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-- 4. (amended) Method according to [one or several] either of Claims 1 [through 3] or 2, [characterized by the fact that] wherein prior to the gelling, sintering additives in the form of crystallization seeds, crystal growth inhibitors and/or other modifying components that influence the sintering process are added.--

-- 6. (amended) Method according to [one or several] either of Claims 1 [through 5] or 2, [characterized by the fact that] wherein the gelling of the suspensions occurs by increasing or decreasing the pH value; through aging; the addition of electrolytes; increased temperature; and/or concentrating the solution. --

-- 7. (amended) Method according to [one or several] either of Claims 1 [through 6] or 2,